



Air Quality
PERMIT TO CONSTRUCT
State of Idaho
Department of Environmental Quality

PERMIT No.: P-2008.0102

FACILITY ID No.: 027-00024

AQCR: 64

CLASS: B

ZONE: 11

SIC: 2011

NAICS: 311611

UTM COORDINATE (km): 538.1, 4823.0

1. PERMITTEE

XL Four Star Beef Inc.

2. PROJECT

Permit to Construct Revision

3. MAILING ADDRESS

P.O. Box 1470

CITY

Nampa

STATE

ID

ZIP

83653-1470

4. FACILITY CONTACT

Michael Jay Thompson

TITLE

Plant Engineer

TELEPHONE

(208) 468-4255

5. RESPONSIBLE OFFICIAL

Tony Jorgensen

TITLE

Facility Manager

TELEPHONE

(208) 468-4231

6. EXACT PLANT LOCATION

Amity Road and Railroad, Nampa

COUNTY

Canyon

7. GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS

Beef slaughter and rendering

8. PERMIT AUTHORITY

This permit is issued according to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.200 through 228, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality (DEQ) or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes in design, equipment or operations may be considered a modification. Modifications are subject to DEQ review in accordance with IDAPA 58.01.01.200 through 228 of the Rules for the Control of Air Pollution in Idaho.

HARBI ELSHAFEI, PERMIT WRITER
DEPARTMENT OF ENVIRONMENTAL QUALITY

DATE MODIFIED/REVISED:

**DRAFT FOR
PUBLIC COMMENT**

DATE ISSUED:

MIKE SIMON, STATIONARY SOURCE PROGRAM
MANAGER
DEPARTMENT OF ENVIRONMENTAL QUALITY

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Acronyms, Units, and Chemical Nomenclature

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
Btu	British thermal unit
CFR	Code of Federal Regulations
ClO ₂	Chlorine dioxide
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
gr	grain (1 lb = 7,000 grains)
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
MMBtu	million British thermal units
NAICS	North American Industry Classification System
NSPS	New Source Performance Standards
ORP	oxygen reduction potential
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PTC	permit to construct
scf	standard cubic feet
SIC	Standard Industrial Classification
SM	synthetic minor
SO ₂	sulfur dioxide
T/yr	tons per year
UTM	Universal Transverse Mercator

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1. PERMIT TO CONSTRUCT SCOPE

Purpose

- 1.1 The purpose of this permit is to revise PTC No. P-060029, issued July 31, 2006 by replacing the Quad Corp wet chamber scrubber existing at the rendering operations with a 25,000 packed-bed wet scrubber for a suitable working environment and to control the odors. Also, this permit changes the names of the facility's contact and the responsible official. [DRAFT]
- 1.2 Those permit conditions that have been revised by this permitting action are identified by a date citation located directly under the permit condition and on the right hand margin. [DRAFT]
- 1.3 This PTC replaces PTC No. P-060029, issued on July 31, 2006, the terms and conditions of which shall no longer apply. [DRAFT]

Regulated Sources

- 1.4 Table 1.1 lists all sources of regulated emissions in this PTC.

Table 1.1 SUMMARY OF REGULATED SOURCES

Permit Section	Source Description	Emissions Control(s)
2	ABCO boiler Fuel type: duel fuel-fired natural gas or tallow Heat input capacity: 29.4 MMBtu/hr	None
3	Rendering operations	Venturi and packed-bed wet scrubbers
4	Anaerobic lagoon biogas flare	None

[DRAFT]

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2. ABCO BOILER

2.1 Process Description

The ABCO boiler, Model No. 700 AMA-T-DG, has a rated heat input capacity of 29.4 MMBtu/hr and can be fueled by either natural gas or tallow (rendered animal fat). The boiler is used to generate process steam.

2.2 Emissions Control Description

There is no control equipment for this boiler.

Emissions Limits

2.3 Grain-loading limits

The permittee shall not discharge to the atmosphere from any fuel-burning equipment, with a maximum rated input of 10 MMBtu/hr or more and commencing operation on or after October 1, 1979, PM in excess of 0.015 gr/dscf corrected to 3% oxygen by volume when burning gas, or 0.05 gr/dscf corrected to 3% oxygen by volume when burning liquid (i.e., tallow).

2.4 Opacity Limit

Emissions from the ABCO boiler stack, or any other stack, vent, or functionally equivalent opening associated with the ABCO boiler, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

2.5 Fuel Type

The boiler shall burn only natural gas or tallow

2.6 Burner Capacity

The maximum burner capacity for the ABCO boiler shall not exceed 29.4 MMBtu/hr.

2.7 Air Pollution Emergency Rule

The permittee shall comply with IDAPA 58.01.01.550-562, Air pollution Emergency Rule.

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Monitoring and Recordkeeping Requirements

2.8 Performance Test

Within 60 days after commencing operation, the permittee shall conduct a particulate matter performance test at maximum operating capacity while burning tallow, in accordance with the procedures in 40 CFR 60, Appendix A, Method 5. The permittee shall also conduct a visible emissions evaluation in accordance with the procedures in IDAPA 58.01.01.625 during the test. Testing while burning is required a minimum of once every five years to demonstrate compliance with permit conditions 2.3 and 2.4. The permittee shall submit a performance test protocol to DEQ for approval with 30 days of the performance test. A report on the results of the test shall be submitted to DEQ within 45 days after completion of the test.

2.9 Fuel-Use Records

The permittee shall maintain records of the amounts of each fuel combusted during each day. The records shall be kept on site and shall be made available to DEQ representatives upon request.

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3. RENDERING OPERATIONS

3.1 Process Description

The rendering operations produces saleable byproducts (meat, fat, bone, blood, and offal) resulting from beef slaughter.

3.2 Emissions Control Description

Emissions from the cookers are vented through the entrainment trap, heat exchangers, 12,000 venturi scrubber, and the 60,000 packed-bed wet scrubber. The blood dryer is vented through the 12,000 venturi and the 60,000 packed-bed wet scrubbers. The room air is vented continuously through the 60,000 packed bed wet scrubber and it is also vented, as needed, through a 25,000 packed-bed wet scrubber to control odors. Bleach or chlorine dioxide (ClO₂) is used as a scrubbing medium. The ClO₂ generation and feed systems are connected to the scrubbers. The ClO₂ or bleach systems are connected to oxygen reduction potential (ORP) controllers, which automatically control the feed of ClO₂ or bleach solution to the water circulated in the individual scrubbers. The ORP is a measurement directly related to available ClO₂ in the scrubber recycle solution.

[DRAFT]

Emissions Limits

3.3 Odor

The permittee shall not allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution in accordance with IDAPA 58.01.01.775.

3.4 Opacity Limit

Emissions from the venture and the packed-bed wet scrubber stacks, or any other stack, vent, or functionally equivalent opening associated with the rendering operations, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

3.5 Control

- 3.5.1 Odorous gases generated from the Dupps 120 U cooker and the Dupps 260 J cooker shall be vented through the entrainment trap, heat exchanger, condenser, SCP Control Inc. 12,000 venturi scrubber, and

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the SCP Control Inc. 60,000 packed-bed wet scrubber. Bleach or ClO₂ shall be used as the scrubbing medium. The ClO₂ generation or bleach and feed systems shall be connected to the 12,000 venturi scrubber and to the 60,000 packed-bed wet scrubber. The ClO₂ or bleach systems shall be connected to ORP controllers.

- 3.5.2 Odorous gases generated from the following processes shall also be vented through the 12,000 venturi scrubber and the 60,000 packed-bed wet scrubber: two rendering plant pressers, rendering plant centrifuge, rendering plant milling room ventilation air, blood dryer centrifuge, and exhaust gases from the blood drying system. Plant ventilation air shall be vented through the 60,000 packed-bed wet scrubber and a 25,000 packed-bed wet scrubber if needed to control odors reported pursuant to Permit Condition 3.7.

[DRAFT]

3.6 Scrubber Operating Requirements

- 3.6.1 The scrubbing media flow rate to the venturi scrubber shall be maintained at or above 24 gallons per minute (gpm).
- 3.6.2 The scrubbing media flow rate to the 60,000 packed-bed wet scrubber shall be maintained at or above 450 gpm.
- 3.6.3 The scrubbing media flow rate to the 25,000 packed-bed wet scrubber shall be maintained at or above 250 gpm when in use.

[DRAFT]

3.7 Odor Complaints

The permittee shall maintain records of all odor complaints received. If the complaint has merit, the permittee shall take appropriate corrective action as expeditiously as practicable. The records shall include, at a minimum, the date each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Monitoring and Recordkeeping Requirements

3.8 Air Pollution Emergency Rule

The permittee shall comply with IDAPA 58.01.01.550-562, Air Pollution Emergency Rule.

3.9 Scrubber Monitoring Requirements

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The following information shall be monitored and recorded according to the frequency specified. The records shall be kept on site at all times and shall be made available to DEQ representatives upon request.

- 3.9.1 The permittee shall install, calibrate, maintain, and operate monitors to continuously measure the scrubbing media flow rates to the venturi scrubber, the 60,000 packed-bed wet scrubber, and the 25,000 packed bed wet scrubber. Scrubbing media flow rates shall be monitored and recorded once every eight hours during operation.

[DRAFT]

- 3.9.2 The permittee shall install, calibrate, maintain, and operate an ORP controller to continuously measure the chemical concentrations in the 60,000 packed-bed wet scrubber. The chemical concentrations shall be monitored and recorded once every eight hours during operation.

- 3.9.3 The permittee shall install, calibrate, maintain, and operate an ORP controller to continuously measure the chemical concentrations in the 25,000 packed-bed wet scrubber when in operation. The chemical concentrations shall be monitored and recorded once every eight hours during operation.

[DRAFT]

- 3.9.4 The permittee shall monitor and record the scrubbing media flow rate in gallons per minute through the 25,000 packed-bed wet scrubber once every eight hours.

[DRAFT]

- 3.9.5 The permittee shall maintain records of the results of all monitoring, including equipment calibration records, in accordance with General Provision 7 of this permit.

[DRAFT]

3.10 Quality Assurance Manual

Within 60 days of permit issuance, the permittee, shall prepare a DEQ-approved quality assurance manual for bleach or ClO₂, which describes methods and procedures that will be followed to assure adequate quantities of chemicals are added to the scrubbing media for the packed-bed wet scrubbers. The quality assurance manual shall describe the procedures that will be followed to comply with General Provision 2 and the manufacturer specifications for the packed-bed wet scrubbers. The quality assurance manual may be brief, but at a minimum must address the following: the types of chemicals used, minimum chemical residual requirements, and recording once every-eight-hour the ORP readings of the chemical residual monitoring regime. The quality assurance manual shall be maintained on site at all times and shall be made available to DEQ representatives upon request.

The operating and monitoring requirements specified in the quality assurance manual are incorporated by reference to this permit and are enforceable permit conditions

The quality assurance manual shall be submitted to DEQ at the following address. Any changes made to the quality assurance manual shall also be submitted to DEQ within 15 days of the change.

Air Quality Permit Compliance
Department of Environmental Quality
Boise Regional Office

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1445 North Orchard
Boise, ID 83706-2239

[DRAFT]

Reporting Requirements

3.11 Odor Complaints

The permittee shall submit semiannual reports to DEQ by January 15 and July 15 of each year summarizing the occurrences of odor complaints and corrective actions taken during the period.

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4. BIOGAS FLARE

4.1 Process Description

The biogas flare is used to burn the gases released by the anaerobic lagoons.

4.2 Emissions Control Description

There is no control equipment associated with the flare.

Emissions Limits

4.3 SO₂ Emissions Limits

Emissions of SO₂ shall not exceed 4.0 lb/hr averaged over a 24-hour period.

4.4 PM Emissions Limits

The PM emissions from the flare shall not be in excess of 0.2 pounds per 100 pounds of biogas burned in accordance with IDAPA 58.01.01.786.

4.5 Opacity Limit

Emissions from the biogas flare, or any other stack, vent, or functionally equivalent opening associated with the rendering operations, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

4.6 Operations and Maintenance Manual Requirements

Within 60 days after startup, the permittee shall have developed an O&M manual for the biogas flare which describes the procedures that will be followed to comply with General Provision 2 and the manufacturer specifications. This manual shall remain on site at all times and shall be made available to DEQ representatives upon request. The permittee shall submit a copy of the manual to DEQ for review by April 30, 2004, in accordance with General Provision 9.

The O&M manual shall be submitted to DEQ at the following address. Any changes made to the O&M manual shall also be submitted to DEQ within 15 days of the change.

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Department of Environmental Quality
Boise Regional Office
1445 North Orchard
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4.7 **Automatic Shutoff**

The permittee shall install, calibrate, and maintain an automatic fuel shutoff that stops the fuel flow in case of a flameout.

4.8 **Air Pollution Emergency Rule**

The permittee shall comply with IDAPA 58.01.01.550-562, *Air Pollution Emergency Rule*.

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5. PERMIT TO CONSTRUCT GENERAL PROVISIONS

General Compliance

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq.
[Idaho Code §39-101, et seq.]
2. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
[IDAPA 58.01.01.211, 5/1/94]
3. Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules and regulations.
[IDAPA 58.01.01.212.01, 5/1/94]

Inspection and Entry

4. Upon presentation of credentials, the permittee shall allow DEQ or an authorized representative of DEQ to do the following:
 - a. Enter upon the permittee's premises where an emissions source is located or emissions related activity is conducted, or where records are kept under conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d. As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108]

Construction and Operation Notification

5. The permittee shall furnish DEQ written notifications as follows in accordance with IDAPA 58.01.01.211:
 - a. A notification of the date of initiation of construction, within five working days after occurrence;
 - b. A notification of the date of any suspension of construction, if such suspension lasts for one year or more;

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- c. A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date;
- d. A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date; and
- e. A notification of the initial date of achieving the maximum production rate, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211, 5/1/94]

Performance Testing

- 6. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/00]

Monitoring and Recordkeeping

- 7. The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Records of monitoring information shall include, but not be limited to the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211, 5/1/94]

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Excess Emissions

8. The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets and breakdowns.

[IDAPA 58.01.01.130-136, 4/5/00]

Certification

9. All documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

False Statements

10. No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit, or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

Tampering

11. No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Transferability

12. This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06.

[IDAPA 58.01.01.209.06, 4/11/06]

Severability

13. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[IDAPA 58.01.01.322.15.h, 5/1/94; 40 CFR 70.6(a)(5)]